

Amendments to the Claims:

The following listing of claims will replace all prior versions, and listings, of claims in the application:

1-7. (Canceled)

8. (Currently Amended) A method for producing a single crystal by pulling a single crystal from a raw material melt in a chamber in accordance with Czochralski method, comprising pulling a single crystal having a defect-free region which is outside an OSF region to occur in a ring shape in the radial direction and in which interstitial-type and vacancy-type defects do not exist by controlling a V/G value as indicated by a growth rate (V) and a temperature gradient (G) near a growth interface,

wherein the pulling of the single crystal is performed with being controlled by arranging at least a cooling cylinder to be forced cooled with a cooling medium and an auxiliary member for cooling in the chamber so that an average of cooling rate in passing through a temperature region of the melt point of the single crystal to 950 °C is in the range of 0.96 °C/min or more and so that an average of cooling rate in passing through a temperature region of 1150 °C to 1080 °C is in the range of 0.88 °C/min or more and so that an average of cooling rate in passing through a temperature region of 1050 °C to 950 °C is in the range of 0.71 °C/min or more, and thereby preventing aggregation of point defects, and

wherein a growth rate margin for pulling the single crystal having a defect-free region (an upper limit of the growth rate – a lower limit of the growth rate) is in the range of 7% or more of a growth rate average of the single crystal ((the upper limit of the growth rate + the lower limit of the growth rate) ÷ 2).

9-11. (Canceled)

12. (Previously Presented) The method for producing a single crystal according to claim 8, wherein the single crystal to be produced is a silicon single crystal.

13-14. (Canceled)

15. (Previously Presented) The method for producing a single crystal according to claim 8, wherein a diameter of the straight body of the single crystal is 150 mm or more.

16-17. (Canceled)

18. (Previously Presented) The method for producing a single crystal according to claim 8, wherein the pulling of the single crystal is performed with applying a magnetic field of a central magnetic field strength in the range of 300 gauss to 6000 gauss.

19-20. (Canceled)

21. (Previously Presented) A single crystal produced by the method according to claim 8.

22-23. (Canceled)